# CLAIMS

[30990139 US]

1. A method of measuring the efficiency of data transmission in a network in which data packets have sequence numbers and sending stations retransmit packets which are deemed to be lost, comprising the steps of:

monitoring the occurrence of packets at a point in the network;

tracking the sequence numbers of successively monitored packets;

attributing a sequence number less than the next expected number to retransmission of a packet and incrementing a retransmission count in accordance with the quantity of retransmitted data; and

reporting the retransmission count as indicative of the transmission efficiency.

2. The method of claim 1, wherein the network uses TCP.

3. The method of claim 2, wherein the TCP traffic at the monitored point is coherent TCP traffic which traverses the monitored point in the order of packet transmission.

4. The method of claim 1, wherein at least one specific connection is selected for monitoring by reference to one or more of the IP address of a connection end-point, a port at an end-point and a protocol.

5. The method of claim 1, including the step of attributing a sequence number greater than the next expected number to loss of a packet and incrementing a loss count by the size of the lost TCP payload, wherein the loss count is used to determine the location of a fault relative to the location of the monitoring point.

6. The method of claim 5, wherein counts obtained from different monitoring points are compared to determine the location of the fault.

7. The method of claim 1, including the step of deriving a measure of total volume of packets transmitted as a function of the retransmission count.

8. A method of monitoring data transmission in a network in which data packets have sequence numbers and sending stations retransmit packets which are deemed to be lost, comprising the steps of:

monitoring the occurrence of packets at a point in the network;

tracking the sequence numbers of successively monitored packets;

attributing a sequence number greater than the next expected number to loss of a packet and incrementing a loss count in accordance with the quantity of lost data; and

reporting the loss count as indicative of the transmission quality.

9. The method of claim 8, wherein at least one specific connection is selected for monitoring by reference to one or more of the IP address of a connection end-point, a port at an end-point and a protocol.

10. The method of claim 8, wherein the loss count is used to determine the location of a fault relative to the location of the monitoring point.

11. The method of claim 10, wherein counts obtained from different monitoring points are compared to determine the location of the fault.

12. The method of claim 8, including the step of deriving a measure of total volume of packets transmitted as a function of the loss count.